

Author Index

- Agarwal, B. D., 63
Amelinckx, S., 167
Apaydin, N., 145
Avalos-Borja, M., 167

Bates, R. C., 159
Blachère, J. R., 261
Bolton, C. J., 231

Charrier, J., 121

Davies, G. J., 23
De Fouquet, J., 121
Doherty, R. D., 145
Dyson, B. F., 231

Esterling, D. M., 113

Greene, F., 119
Greenfield, I. G., 89
Gur, T. M., 53

Huggins, R. A., 53
Husby, K.-O., 103

Joneja, S. K., 63

Kidawa, A., 125
Kuhlmann-Wilsdorf, D., 209
Kuroki, K., 69

Laird, C., 209
Lau, T. W. F., 221
Lavrentev, F. F., 191
Liebermann, H. H., 241
Lloyd, G. J., 1

Markfeld, A., 151
Martin, J. W., 1
Melander, A., 103
Mondino, M. A., 129

Nakamura, S., 69
Nowak, M., 125

Peretti, H. A., 129
Petkovic-Luton, R. A., 75
Polonis, D. H., 15
Prabhakar, K. V., 145
Purohit, A., 89

Quin, M. P., 249

Raistrick, I. D., 53
Ramaswami, B., 221

Rao, K. V., 15
Rosen, A., 151

Salvo, C., 119
Santhanam, A. T., 159
Schlein, W., 119
Schwartz, L. H., 249
Seeger, A., 129
Sellars, C. M., 75
Sinha, R. K., 261
Smelser, R. E., 175
Sowerby, R., 23
Swedlow, J. L., 175

Tamura, I., 69
Tomota, Y., 69
Torres Villaseñor, G., 167

Van Landuyt, J., 167
Van Sande, M., 167
Viana, C. S. Da C., 23

Williams, K. R., 231

Zlósilo, M., 119

Subject Index

A.c. techniques

- and d.c. techniques, ionic conductivity of
8mol.%Sc₂O₃-ZrO₂ measured by use of both, 53

Alloying

- and chemisorption and hydrogen embrittlement
of steel, 113

Alloys

- Al-Mg, rheocast, special grain boundaries in, 145
- Al-Mg single crystals, fatigue softening of, 221
- Cu-Al, a reinvestigation of the γ phase in: a new
long-period superstructure, 167
- Cu-Si, subjected to dynamic loading conditions,
deformation substructures and fracture be-
haviour of, 15
- Cu-10wt.%Ni-6wt.%Sn, spinodal, low cycle
fatigue in, 249
- dispersion-strengthened, creep of, 75
- glassy, ribbons of, warm consolidation and clad-
ding of, 241
- plastically deformed two-ductile-phase, on the
average internal stresses in each constituent
phase in, 69
- Ti-6Al-4V, a continuum analysis of fracture in
Widmanstätten α plus β colonies, 175

Aluminium

- fatigue softening of Al-Mg single crystals, 221
- a reinvestigation of the γ phase in Cu-Al alloys:
a new long-period superstructure, 167
- special grain boundaries in rheocast Al-Mg, 145
- Ti-6Al-4V, a continuum analysis of fracture in
Widmanstätten α plus β colonies, 175

Antimony

- some comments on polycrystalline Sb-S-I, 125

Austenite

- reverted, the effect of on the plastic deformation
of maraging steel, 151

Bergström's method

- application of to analysis of the development
of the athermal component of the tensile
strength of α -Ti, 121

Chemisorption

- and alloying and hydrogen embrittlement of
steel, 113

Cladding

- and warm consolidation of glassy alloy ribbons,
241

Composite

- a unidirectional, flexural fatigue of in the longi-
tudinal direction, 63

Conductivity

- ionic, of 8mol.%Sc₂O₃-ZrO₂ measured by use of
both a.c. and d.c. techniques, 53

Consolidation

- warm, and cladding of glassy alloy ribbons, 241

Continuum analysis

- of fracture in Widmanstätten α plus β colonies, 175

Copper

- deformation substructures and fracture behaviour
of Cu-Si alloys subjected to dynamic loading
conditions, 15
- the effect of dislocation density on the creep
of dispersion-strengthened Cu crystals, 1
- the influence of texture on the mechanical re-
sponse of commercial purity Cu sheet in
some simple forming processes, 23
- low cycle fatigue in spinodal Cu-10wt.%Ni-
6wt.%Sn, 249
- a reinvestigation of the γ phase in Cu-Al alloys:
a new long-period superstructure, 167

Crack opening

- displacement due to and notch tip strain, relation-
ship between, 159

Creep

- diffusive, particle size dependence of threshold
stress in, 261
- of dispersion-strengthened alloys, 75
- of dispersion-strengthened Cu crystals, the ef-
fect of dislocation density on, 1

Creep life

- residual, metallographic methods of determining,
231

Crystals

- the effects of discrete and diffused surface layers
on the mechanical properties of, 89

D.c. techniques

- and a.c. techniques, ionic conductivity of
8mol.%Sc₂O₃-ZrO₂ measured by use of both, 53

Defects

- intrinsic point, in Ta after plastic deformation at
liquid He temperatures, study of, 129

Deformation

- plastic, on the average internal stresses in each
constituent phase of two-ductile-phase al-
loys subjected to, 69
- plastic, at liquid He temperatures, study of in-
trinsic point defects in Ta after, 129
- plastic, of maraging steel, the effect of reverted
austenite on the, 151
- substructures due to and fracture behaviour of
Cu-Si alloys subjected to dynamic loading
conditions, 15

Dislocations

- behaviour of in fatigue: breakdown of loop
patches and formation of persistent slip bands
and of dislocation cells, 209
- density of, the effect of on the creep of dispersion-
strengthened Cu crystals, 1
- formation of cells of, and persistent slip bands,
and breakdown of loop patches: dislocation
behaviour in fatigue, 209
- the type of dislocation interaction as the factor
determining work hardening, 191

- Dispersion strengthening
 - creep of dispersion-strengthened alloys, 75
 - the effect of dislocation density on the creep of dispersion-strengthened Cu crystals, 1
- Displacement
 - crack-opening, and notch tip strain, relationship between, 159
- Embrittlement
 - hydrogen, and alloying and chemisorption of steel, 113
- Fatigue
 - dislocation behaviour in: breakdown of loop patches and formation of persistent slip bands and of dislocation cells, 209
 - flexural, of a unidirectional composite in the longitudinal direction, 63
 - low cycle, in spinodal Cu-10wt.%Ni-6wt.%Sn, 249
 - softening due to of Al-Mg single crystals, 221
- Forming
 - some simple processes of, the influence of texture on the mechanical response of commercial purity Cu sheet in, 23
- Fracture
 - and deformation substructures of Cu-Si alloys subjected to dynamic loading conditions, 15
 - in Widmanstätten α plus β colonies, a continuum analysis of, 175
- Glassy alloys
 - ribbons of, warm consolidation and cladding of, 241
- Grain boundaries
 - special, in rheocast Al-Mg, 145
- Hydrogen
 - embrittlement by, and alloying and chemisorption of steel, 113
- Iodine
 - some comments on polycrystalline Sb-S-I, 125
- Loading
 - conditions of dynamic, deformation substructures and fracture behaviour of Cu-Si alloys subjected to, 15
- Loop patches
 - breakdown of, and formation of persistent slip bands and of dislocation cells: dislocation behaviour in fatigue, 209
- Magnesium
 - fatigue softening of Al-Mg single crystals, 221
 - special grain boundaries in rheocast Al-Mg, 145
- Mechanical properties
 - of commercial purity Cu sheet in some simple forming processes, the influence of texture on the, 23
 - of crystals, the effects of discrete and diffused surface layers on the, 89
- Metallography
 - methods of determining residual creep life by, 231
- Microscopy
 - characterization of MoO₂ by, 119
- Molybdenum
 - microscopic characterization of MoO₂, 119
- Necking
 - diffuse, in tensile tests, the strain rate sensitivity on, 103
- Nickel
 - low cycle fatigue in spinodal Cu-10wt.%Ni-6wt.%Sn, 249
- Notch tip
 - strain at the, and crack-opening displacement, relationship between, 159
- Oxides
 - ionic conductivity of 8mol.%Sc₂O₃-ZrO₂ measured by use of both a.c. and d.c. techniques, 53
 - microscopic characterization of MoO₂, 119
- Particle size
 - dependence on of threshold stress in diffusive creep, 261
- Persistent slip bands
 - and dislocation cells, formation of, and breakdown of loop patches: dislocation behaviour in fatigue, 209
- Plastic deformation
 - on the average internal stresses in each constituent phase in two-ductile-phase alloys subjected to, 69
 - at liquid He temperatures, study of intrinsic point defects in Ta after, 129
 - of maraging steel, the effect of reverted austenite on, 151
- Point defects
 - intrinsic, in Ta after plastic deformation at liquid He temperatures, study of, 129
- Scandium
 - ionic conductivity of 8mol.%Sc₂O₃-ZrO₂ measured by use of both a.c. and d.c. techniques, 53
- Sensitivity
 - strain rate, on diffuse necking in tensile tests, 103
- Silicon
 - deformation substructures and fracture behaviour of Cu-Si alloys subjected to dynamic loading conditions, 15
- Spinodal alloys
 - Cu-10wt.%Ni-6wt.%Sn, low cycle fatigue in, 249
- Steel
 - alloying, chemisorption and hydrogen embrittlement of, 113
 - maraging, the effect of reverted austenite on the plastic deformation of, 151
- Strain
 - notch tip, and crack-opening displacement, relationship between, 159
- Strain rate
 - sensitivity of on diffuse necking in tensile tests, 103
- Stress
 - average internal, in each constituent phase in plastically deformed two-ductile-phase alloys, 69
 - threshold, particle size dependence of in diffusive creep, 261

Structures

- a reinvestigation of the γ phase in Cu-Al alloys: a new long-period superstructure, 167

Substructures

- deformation, and fracture behaviour of Cu-Si alloys subjected to dynamic loading conditions, 15

Sulphur

- some comments on polycrystalline Sb-S-I, 125

Surface layers

- discrete and diffused, the effects of on the mechanical properties of crystals, 89

Tantalum

- study of intrinsic point defects in Ta after plastic deformation at liquid He temperatures, 129

Temperature

- liquid He, study of intrinsic point defects in Ta after plastic deformation at, 129

Tensile strength

- of α -Ti, application of Bergström's method to the analysis of the development of the athermal component of the, 121

Tensile tests

- the strain rate sensitivity on diffuse necking in, 103

Texture

- the influence of on the mechanical response of commercial purity Cu sheet in some simple forming processes, 23

Threshold stress

- particle size dependence of in diffusive creep, 261

Tin

- low cycle fatigue in spinodal Cu-10wt.%Ni-6wt.%Sn, 249

Titanium

- application of Bergström's method to the analysis of the development of the athermal component of the tensile strength of α -Ti, 121

- Ti-6Al-4V, a continuum analysis of fracture in Widmanstätten α plus β colonies, 175

Vanadium

- Ti-6Al-4V, a continuum analysis of fracture in Widmanstätten α plus β colonies, 175

Widmanstätten structure

- a continuum analysis of fracture in α plus β colonies with, 175

Work hardening

- the type of dislocation interaction as the factor determining, 191

Zirconium

- ionic conductivity of 8mol.%Sc₂O₃-ZrO₂ measured by use of both a.c. and d.c. techniques, 53

